REMARKS

Claims 1, 2 and 4-20 are pending in this application. Claims 1, 2 and 4-20 are canceled without prejudice or disclaimer, and claims 21-36 are newly added herein. Upon entry of this amendment, claims 21-36 will be pending. Entry of this amendment and reconsideration of the rejections are respectfully requested.

No new matter has been introduced by this Amendment. Support for the amendments to the claims is as follows:

Support for new claims 21-30, which disclose a method of producing an epoxy resin composition, may be found, in part, in original claims 1, 2, 4-10, 12, and 18-20, which disclosed an epoxy resin composition comprising recited essential components. New claims 21 and 34 recite a reacting step of compound (A) and compound (B) as supported, for example, by the specification at page 7, lines 20-22, and a mixing step with the epoxy resin, as supported, for example, by the specification on page 23, lines 1-14. In new claim 34, the polyamine-based compound (A) is limited to an aliphatic polyamine and an alicyclic polyamine.

Support for new claims 31-33, which recite a method for producing a molded article, may be found in original claims 14-16.

Claims 1, 2, 7, 10-17 are rejected under 35 U.S.C. §102(b) as being anticipated by Haraguchi et al. (WO 03/037985). Citations made to the WIPO document refer to the English language equivalent (US 2004/0254328). (Office action p. 2)

Claims 1, 5, 8 and 9 are rejected under 35 U.S.C. §102(b) as being anticipated by Kawachi et al. (JP 09-157498). The English language machine translation of the Japanese document is used for the citation below. (Office action p. 4)

Claims 18-20 are rejected under 35 U.S.C. §102(b) as being anticipated by Haraguchi et al. (WO 03/037985). Citations made to the WIPO document refer to the English language equivalent (US 2004/0254328). (Office action p. 4)

Claims 18-20 are rejected under 35 U.S.C. §102(b) as being anticipated by Kawachi et al. (JP 09-157498). The English language machine translation of the Japanese document is used for the citation below. (Office action p. 4)

Claims 4 and 6 are rejected under 35 U.S.C. §103(a) as being unpatentable over Haraguchi et al. (WO 03/037985). Citations made to the WIPO document refer to the English language equivalent (US 2004/0254328). (Office action p. 6)

These rejections are moot in view of the cancellation of claims 1, 2 and 4-20 without prejudice or disclaimer.

Applicant submits that new claims 21-26 are not anticipated by or obvious over the cited references. Applicant here discusses the new claims in regard to the primary references Haraguchi et al. and Kawachi et al.

Regarding Haraguchi WO'985

The procedure and order for obtaining a composition of Haraguchi are different from those of present invention. In the present invention, a polyamine borate is generated at first, and then, the generated polyamine borate is mixed with an epoxy resin. On the other hand, in Haraguchi, an amine-modified epoxy resin is prepared at first, and then, it is mixed with borates. The invention of Haraguchi cannot achieve the following two excellent effects (i) and (ii) of the present invention:

(i) Regarding water generated by condensation

When polyamine is reacted with boric acid, amine-condensed borate is generated, and **water** is also generated necessarily in the reaction process since water is generated by the condensation. Accordingly, if polyamine is reacted with boric acid and no additional step is conducted for removing said water, water generated by condensation unpreferably remains to cause adverse effects. Accordingly, if unreacted polyamine is reacted with boric acid in the Haraguchi as argued in the Office Action, water is included in an epoxy resin mixture of Haraguchi.

On the other hand, in the present invention, a polyamine borate can react with an epoxy resin without the presence of such water. The reason is that, in the present invention, a polyamine is at first generated by reacting a polyamine-based compound (A) with a boric acid-based compound (B), and then, the polyamine borate is mixed with an epoxy resin having two or more epoxy groups in

the molecule thereof in an organic solvent. In the present invention, water can be removed easily when the polyamine borate is obtained, and therefore adverse effects are not caused. (Please refer to Synthesis Examples 1 to 19 of the present specification).

(ii) Regarding glass transition point

An excellent high glass transition temperature of an epoxy resin can be achieved due to use of a polyamine borate which is generated in the present invention. In the present invention, the polyamine borate can be generated with good efficiency, and furthermore, unreacted boric acid and unreacted polyamine can be removed easily by a washing step or the like, even if unreacted boric acid and unreacted polyamine remain after a reaction of generating the polyamine borate. When such a polyamine borate from which unreacted boric acid, unreacted polyamine and the like have been removed is used in an epoxy resin composition, a cured product which can have an excellent high glass transition temperature can be generated.

On the other hand, when unreacted polyamine, boric acid, an unreacted epoxy resin and the like exist together in an epoxy resin composition of Haraguchi, it would seem that unreacted polyamine and boric acid would remain in the mixture without reacting with each other, since optimum conditions for reacting the boric acid and polyamine are not selected. That is, selections regarding solvent, molar ratio between polyamine and boric acid, reaction conditions and the like are limited due to the presence of the epoxy resin used. **When the content of the unreacted polyamine increases, the effect of increasing the glass transition point is achieved insufficiently. When the content of the unreacted boric acid increases, the unreacted boric acid is not**

compatible with the epoxy resin and precipitates unpreferably, and a non-uniform milky cured product is generated unsuitably.

Regarding Kawachi JP'498

In Kawachi, polyamine, boric acid and an epoxy resin are mixed at once. The production method of Kawachi is different from the method of the present invention. The excellent effects of the present invention cannot be achieved by Kawachi, since generated water, unreacted polyamine and unreacted boric acid remain in the mixture generated by Kawachi.

Regarding characteristics of the present invention

Independent claims 21 and 34 of the present invention relate to a method for manufacturing an epoxy resin composition wherein a curing agent is generated at first, and then the curing agent is mixed with an epoxy resin. As the curing agent, polyamine borate is generated by a reaction between a polyamine-based compound (A) and a specific boric acid-based compound (B). (Note that claim 21 recites "an aliphatic polyamine and an alicyclic polyamine-based compound (A)," while claim 34 recites "an polyamine-based compound (A)"). The methods for manufacturing an epoxy resin composition of claims 21 and 34 of the present application can provide an excellent cured product since it is possible to use a polyamine borate from which unreacted boric acid, unreacted polyamine, water and the like are removed, unlike Haraguchi and Kawachi.

Furthermore, since a polyamine borate is generated from a reaction between a polyamine-based compound (A) and a boric acid-based compound (B), a borate group can be introduced into an epoxy resin at the molecular level. Accordingly, due to the use of the polyamine borate for curing

an epoxy resin, the borate content within the epoxy resin can increase, and therefore, glass-transition temperature, elastic modulus and strength of a cured product generated from the epoxy resin composition can increase or be improved. Furthermore, it is possible to decrease a coefficient of thermal expansion of a cured product generated from the epoxy resin composition, and the cured product can have flame retardancy. In addition to high glass transition temperature and no remaining water as described above, an epoxy resin composition generated by the method of the present invention has superior points regarding excellent storage stability and distribution/transportation properties of the resin composition of the present invention.

Lack of Anticipation and Lack of Obviousness of the present invention

Both Haraguchi and Kawachi fail to disclose a method wherein a polyamine borate as a curing agent for an epoxy resin is prepared in advance by reacting a polyamine-based compound (A), which has at least one of an amino group and an imino group in the molecule with a boric acid-based compound (B). New claims 21-36 are therefore not anticipated by, and are not obvious over, Haraguchi and Kawachi, taken separately or in combination.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact the applicants' undersigned agent at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, the applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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Enclosure: Petition for Extension of Time

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